IDTECK SR30
IDTECK SR30U
IDTECK SR30B

13.56MHz Contactless Smart Card Reader
13.56MHz Contactless Universal Smart Card Reader
Fingerprint-Stored Smart Card ID-Only Reader

IDTECK

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1. Important Safety Instructions

When using the **13.56MHz [MIFARE] Contactless Smart Card Reader (SR30) / 13.56MHz Contactless Universal Smart Card Reader (SR30U) / Fingerprint Stored Smart Card ID Only Reader (SR30B)**, basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and injury to persons.

1. **Fully** read and understand all instructions and follow them completely.

2. **Follow** all warnings and instructions marked on the product.

3. **Do not** use liquid or aerosol cleaners. Use a damp cloth for cleaning. If necessary, use mild soap.

4. **Do not** use this product near water.

5. **Only** operate this product using the type of power source indicated. If you are not sure of the type of power supplied to your installation site, consult your dealer of local power company.

6. **Never** insert objects of any kind into the product or through the cabinet slots as they may touch voltage points and/or short circuit parts possibly resulting in fire or electric shock.
   Never spill liquid of any kind on the product.

7. **Never** disassemble this product by yourself; take the unit to a qualified service center whenever service or repair is required. Opening or removing the covers may expose you to dangerous voltages or other risks. Also, incorrect reassembly can cause electric shock when the unit is subsequently used.

8. **Unplug** this product from the Direct Current (DC) power source and refer to qualified service personnel under these conditions:
   - When the power supply cord or plug is damaged or frayed.
   - If liquid has been spilled on the product.
   - If the product does not operate normally after following the operating instructions in this manual.
     Adjust only those controls that are covered by the operating instructions in this manual. Improper adjustment of other controls that are not covered by this manual may damage the unit and will often require extensive work by a qualified technician to restore normal operation.
   - If the product exhibits a distinct change in performance.

2. General

The **IDTECK SR30/SR30U/SR30B Smart Card Reader** is a proximity reader with the read range of up to 4 inches (10cm) and can be installed on any doorframe or mounted on any wall.
IDTECK SR30 reads the serial number stored on the **Philips Mifare™** card (ISO14443 Type A) and transmits the data to the controller in various formats.
IDTECK SR30U reads the serial number stored on the ISO14443 Type A/B card and transmits the data to the controller in various formats.
IDTECK SR30B reads the IDs stored on the user cards that have been issued using the **PRG2000B** and transmits the data to the controller in various formats.
Seven 2-color LED indicators (red and green) and a built-in Piezo buzzer will guarantee you accurate and reliable system operations.

3. Features

✓ **Common**
- 13.56MHz [MIFARE] Contactless Smart Card Reader
- Read Range: Up to 4 inches (10cm)
- 7-Array LED Indicators (Red and Green) and a Buzzer
- External LED Control
- External Buzzer Control
- Easy to install on Mullion Mounting suitable
- Reverse Polarity Protection

✓ **SR30**
- ISO 14443 type A compatible
- Serial Number Read only
- 34bit Wiegand (default) / RS232, ABA Track II (optional) Output Format
- Compatible Controller: iCON100SR, iTDC-SR, Third Party Controller

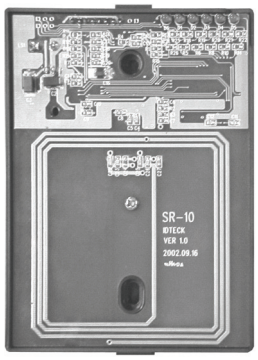
✓ **SR30U**
- ISO 14443 type A/B compatible
- Serial Number Read only
- 34bit Wiegand (default) / RS232, ABA Track II (optional) Output Format
- Compatible Controller: iCON100SR, iTDC-SR, Third Party Controller

✓ **SR30B**

- Read Encrypted ID of Smart Card that is written by PRG2000B
- 26bit Wiegand (default) / RS232, ABA Track II (optional) Output Format
- Compatible Controller: iCON100, iTDC, FINGER007SRB, Third Party Controller.
- Compatible Reader: SR10B, SRK101B, FGR006SRB, FINGER006SRB

4. Identifying Supplied Parts

Please unpack and check the contents of the box:



Reader Module
(1ea)

SR30/SR30U/SR30B Bezel
(1ea)

User Manual
(1 copy)

3.5*40 screw
(2ea)

3.5*25 screw
(2ea)

Anchor Bolt
(2ea)

5. Specification

Model		SR30	SR30U	SR30B
Read Range	Type A	ISK50 / IMC135: Up to 2 inches (5cm) ISC80: Up to 4 inches (10cm)		
	Type B	N/A	ISC80B: Up to 2 inches (5cm)	N/A
Card Reading Time		30ms		
Power / Current		DC 12V / Max. 150mA		
Input Port		2 Input Ports (External LED Control, External Buzzer Control)		
Output Format		34bit Wiegand (Default)		26bit Wiegand (Default)
		RS232,ABA Track II (Selectable)		
LED Indicator / Buzzer		3 Array LED Indicator(Red, Green) / Piezo Buzzer		
Operating Temperature		-35° ~ +65℃ (-31° ~ +149°F)		
Operating Humidity		10% ~ 90% Relative Humidity non-condensing		
Color / Material		Dark Peal Gray / Polycarbonate		
Dimensions (W x H x T)		47mm X 115mm X 22 mm (1.8" X 4.5" X 0.88")		
Weight		150g (0.33lbs)		
Index of Protection		IP65 / IP66		
Certification		FCC, CE, MIC		

Card Read Range of each Contactless Smart[Mifare] Reader

Model		ISC80	ISC80B	ISK50	IMC135	IHC80
Read Range	SR10 / SR30 / SRK101	Up to 4 inches (10cm)	Up to 2 inches (5cm)			
	SR10B / SR30B / SRK101B	Up to 4 inches (10cm)	Up to 2 inches (5cm)			
	SR10U / SR30U / SRK101U	Up to 4 inches (10cm)	Up to 2 inches (5cm)			
	SR10RW / SR30RW / SRK101RW	Up to 4 inches (10cm)	Up to 2 inches (5cm)			
	FINGER007SR(B) FINGER006SR(B) FGR006SR(B)	Up to 4 inches (10cm)	Up to 2 inches (5cm)			
	SR505	Up to 4 inches (10cm)	Up to 2 inches (5cm)			
	FACE007SR FACE006SR	Up to 4 inches (10cm)	Up to 2 inches (5cm)			

6. Installation

6-1. Drilling Screw Holes

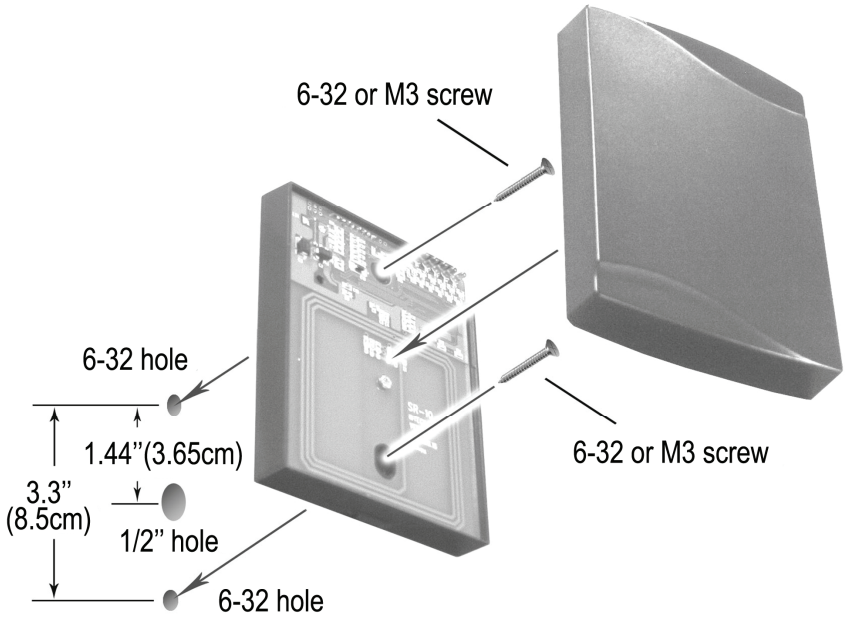
Drill two 6-32 or M3 screw holes 3.3" (8.38cm) apart vertically, and drill one 1/2" hole for the reader cable between the two holes (see the diagram below).

6-2. Installing the Reader Module

Put the reader cable into the center hole and hold the reader module using two 6-32 or M3 screws.

6-3. Snapping the Bezel into Place

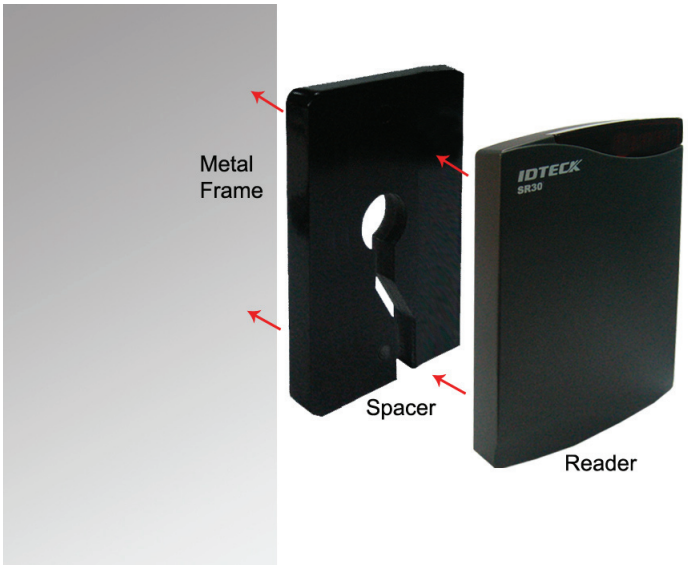
Put the bezel on the reader module, then press it until it clicks into place.



6-4. Installation Considerations

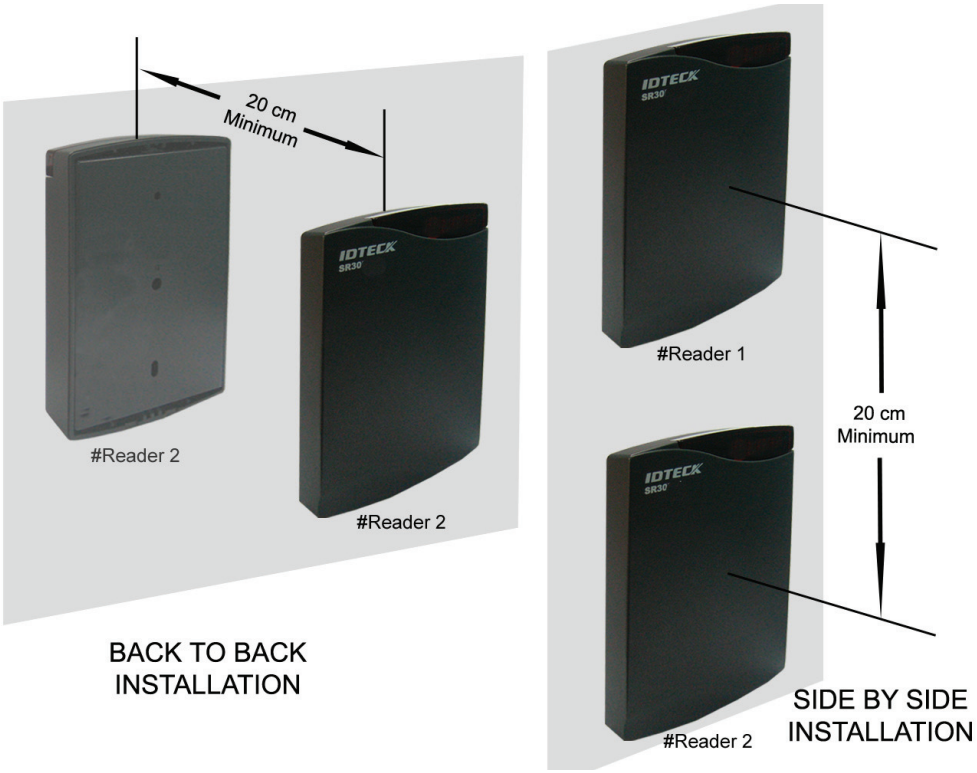
1. When installing a reader on a metal wall

   The read range may get reduced if the reader is installed on a metal surface. To prevent such a read range reduction, install a Spacer between the metal surface and the reader.



2. When installing more than two readers side by side or back to back

The read range may get reduce if more than two readers are installed side by side or back to back. Also, when a card is presented to one of the readers, the other reader may wrongly recognize the card as well. To prevent such interference, make sure the distance between readers is at least 20cm.



7. Wire Color Table

Signal	Color
Main Power (+12V)	Red
Power Ground (GND)	Black
ABA Track II CP Out	Orange
Wiegand Data 0 Out / ABA Track II Data Out	Green
Wiegand Data 1 Out / ABA Track II Clock Out	White
Buzzer Control In	Blue
LED Control In	Yellow
†34/26bit Wiegand Select In	Gray
RS232 (TX)	Purple
RS232 (RX)	Brown
*** Cut out the tail connector before installation.** **†Applicable to SR30 only.**	

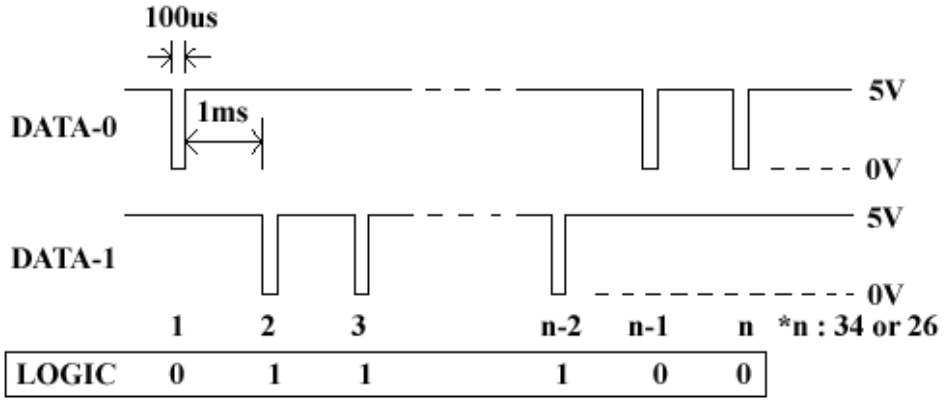
8. Output Format

8-1. Wiegand Output Format

Data Format (34-bit /26-bit)

Bit 1 / Bit 1 : Even Parity Bit of Bit 2 to Bit 17 / Bit 2 to Bit 13
Bit 2 to Bit 33 / Bit 2 to Bit 25 : 4-byte ID number / 3-byte ID number
Bit 34 / Bit 26 : Odd Parity Bit of Bit 18 to Bit 33 / Bit 14 to Bit 25

Timing Diagram



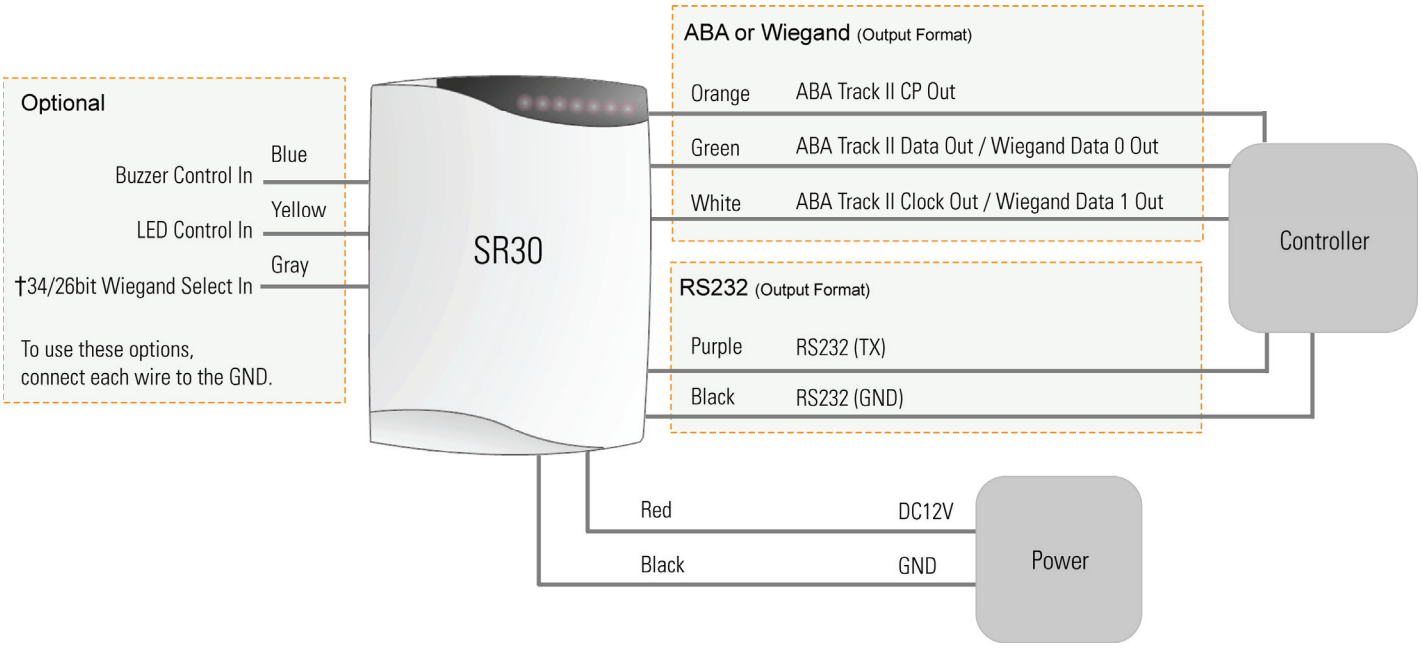
8-2 RS-232C(Option) Data Format

START(0x02H)	DATA(10 or 8 char's)	END(0x03H)	LRC

Baud Rate: 9600bps
DATA: With 4 bytes(34bits), 10 characters,
With 3 bytes(26bits), 8 characters.
LRC: One single value of XOR from 'START' to 'END'.

9. Wire Connection to Access Controller

Make sure the wire connections are correctly done.



†SR30 only

10. Operation

10-1. After the reader is powered on and becomes ready, the red LED will be lit.

10-2. Bring a card close to the reader until the green LED is lit and the buzzer beeps. Then, the reader transmits the RF card data to the controller and changes the LED color to red for next reading.

10-3. LED Control

To change the LED color, you may connect the LED Control Input (Yellow wire) to the ground. Then, the green LED changes to red when a proximity card is presented to the reader and, when the reading is completed, the green LED comes back on for next reading.

10-4. Buzzer Control

When the reader reads a proximity card, only one beep is generated. However, for better distinction between the OK and Error status, you can set the reader to generate additional beeps. In order to do that, you may connect the Beeper Control Input (Blue wire) to the ground. While the Buzzer Control Input wire is connected to the ground, one more beep is generated.

10-5. 4-byte(34bit) / 3-byte(26bit) Select In (SR30 Only)

The reader transmits the serial number of a card which is a 4-byte number. It is possible to set the reader to transmit only 3 bytes with the first one byte removed. It is useful when the connected controller supports 3-byte data only. To use this function, connect the 34-bit / 26-bit selection input (Gray wire) to ground.

CAUTION: It is unavoidable that some card numbers are duplicated in 3-byte output.

e.g.

34bits – 0x21 0x97 0x32 0xBC : Hexa
0563557052 : Decimal
26bits – 0x32 (FAC) 0x97 0x21 (ID number) : Hexa
050(FAC) 38689 (ID number) : Decimal

11. Appendix

Troubleshooting

Cards won't be read properly.	
Cause	Voltage other than DC12V is used, or the type of the card is different.
Solution	1. Check the standard voltage in the manual or catalog. 2. See if the card is ISO14443 Type A or B type. => 125KHz cards can't be used. But, 13.56MHz cards can be used if they are ISO15693 compatible. (Contact the place where you purchased the cards.) 3. If the problem still persists, contact the service center.

When powered on, the reader beeps and the LED is dimly lit.	
Cause	The power adapter being used is not capable of meeting the current consumption level of the reader, or the power cable is too long for sufficient power to reach the reader.
Solution	1. Make sure to use an adapter with a capacity that is larger than the current consumption level of the reader. If more than one reader is connected to one single adapter, make sure that the capacity adapter can support the current consumption of each reader multiplied by the number of the connected readers. 2. Even if the power source has sufficient capacity, the cable may not be usual power cable (i.e. communication cable, UTP cable, etc.) or the length is so long that there is lots of power loss. In this case, replace the cable with a power cable, or reinforce the cable. 3. If the problem still persists, contact the service center.

The read range of cards varies every time a card is read.	
Cause	Even if the cards are of the same type, they might be produced by different companies and, therefore, have different characteristics. (IDTECK cards are made according to the MIFARE card of Philips.
Solution	1. Depending on the card manufacturer and special manufacturing processes, the characteristics of the card may vary. Therefore, make sure if the cards are manufactured by one company. If the cards are manufactured by different companies, it is natural that they have varying read ranges. 2. If the read range of the cards manufactured by a single company varies, contact the service center.

12. FCC Registration Information

FCC REQUIREMENTS PART 15

Caution: Any changes or modifications in construction of this device which are not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.

NOTE: This device complies with **Part 15 of the FCC Rules**.

Operation is subject to the following two conditions;
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a **Class B Digital Device**, pursuant to **Part 15 of the FCC Rules**. These limits are designed to this equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the radio or television off and on, the user is encouraged to try to correct interference by one or more of the following measures.

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on another circuit.
4. Consult the dealer or an experienced radio/TV technician for help.

13. Warranty Policy and Limitation of Liability

IDTECK warrants this product against defects in material and workmanship for the period specified below from the date of purchase under normal customer use. This Warranty doesn't apply: 1) to any product which has been dismantled without authorization of IDTECK or/and has a damaged or detached QC label on its back side; 2) to any losses, defects, or damages caused by improper testing, operation, installation, maintenance, modification, alteration, or adjustment; 3) to any product with a damaged or faded serial number on it; or 4) to any losses, defects, or damages caused by lightning or other electrical discharge, natural disaster, misuse, accident or neglect.

This Limited Warranty is in lieu of all other warranties, obligations, or liabilities on the part of IDTECK, and IDTECK DISCLAIMS ANY AND ALL WARRANTY, WHETHER EXPRESS OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.IDTECK does not, and cannot, know who is present, what property is located, where this product will be used; it would be extremely difficult to determine the actual damages that may result from a failure of the product to perform as anticipated; and the low price of this product is based upon the nature of the product provided and the limited liability that IDTECK assumes. IDTECK IS NOT RESPONSIBLE FOR ANY PERSONAL INJURY, PROPERTY DAMAGE OR LOSS, DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR OTHER LOSS, AND IDTECK'S MAXIMUM LIABILITY SHALL NOT IN ANY CASE EXCEED THE PURCHASE PRICE OF THE PRODUCT.

To obtain repair or replacement under the terms of this warranty, visit IDTECK's Website (http://www.idteck.com) and place an online RMA request. After an RMA code is issued, return the product along with the authorization RMA code.

>> Warranty Period

	Item	Warranty Period
1	RF READER / FINGERPRINT READER	2 years
2	RF CARD (Active type)	
3	STANDALONE CONTROLLER	
4	CONTROL PANEL	
5	FINGERPRINT CONTROLLER	
6	MOLDED RF READER (RF10, RF20, RF30, RF TINY, IP10, IP20, IP30, SR10E, SR10UE, SR10SE, SR10RWE, SR10BE)	Lifetime
7	RF CARD (Passive type) (IDC80, IDC170, IDK50, IMC125, LXK50, IPC80, IPC170, IPK50, ISC80, ISC80S, ISK50, IMC135, IHC80, IP100, IP200)	

RMA REQUEST FORM

IDTECK accepts only on-line RMA requests on our Website (www.idteck.com). Please provide us with basic information in the below form so that we can understand your problems better. Send us back this form with your products after an RMA code is issued on our Website. This form is not compulsory.

Authorization RMA Code :	
1. Company Name	
2. Model Name	
3. Serial No.	
4. Original Invoice No.	
5. Distributor	
6. Purchasing Date	
7. RMA Request Date	

Please check your problems.

□ Card Reading	□ Power	□ Keypad
□ Communication	□ Relay	□ LCD
□ LED & Buzzer	□ Registration	
□ Others :		

IDTECK RMA Center >>

3F, 10/10-1/10-2, Dodang-Dong, Weonmi-Gu, Bucheon-Si, Gyeonggi-Do 157-030, Korea
Telephone: 82.2.2659.0055 (HQ) / 82.32.671.5642 (RMA Center)
Fax: 82.2.2659.0086 (HQ) / 82.32.671.5641 (RMA Center)
Website: www.idteck.com
e-Training Center: www.idtecktraining.com

The specifications contained in this manual are subject to change without notice at any time.

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